

Stingl Installation Program



Stingl SR500 Installation Program

Section 1 – Features and Benefits

Section 2 – Pre-installation checklist - system

Section 3 – Pre-installation checklist - electrical

Section 4 – Basic electrical connections

Section 5 – Advanced electrical connections:
Remotely Operated Pumps

Section 6 – Calibration

Section 7 – Post-installation checklist



SR500 Features

- Complies With ASME/ANSI A112.19.17 Standard, ETL/CSA and ARL Approved
- Works On All Size Pumps
- Vacuum Monitored 128 Times Per Second, for Rapid Response
- Integrates With Existing Timer Boxes (For Easy Retrofit)
- Acts as a Pool Controller With a Fully Programmable Electric 24 Hour Timer & Continuous Run Mode for Commercial Applications



SR500 Features

- 30 Minute Maintenance Override
- Display Error Readout (Prevents Guessing During Troubleshooting)
- External Alarm (Optional)
- Black Box Technology

SR500 Benefits

- Provides a Critical Layer Protection That Meets the Federal VGB Safety Act, and Meets all Current IBC and IRC Building Codes for New & Existing Pools and Spas (Reducing Entrapment Risk)



SR500 Benefits

- Works on New or Existing Residential or Commercial Pools and Spas
- Easy Installation (No Pipes to Cut or Glue)
- Turns Off Pump in Milliseconds Upon Detecting Sudden Vacuum Changes
- Interfaces With all Automated Control Systems
- Cost Effective

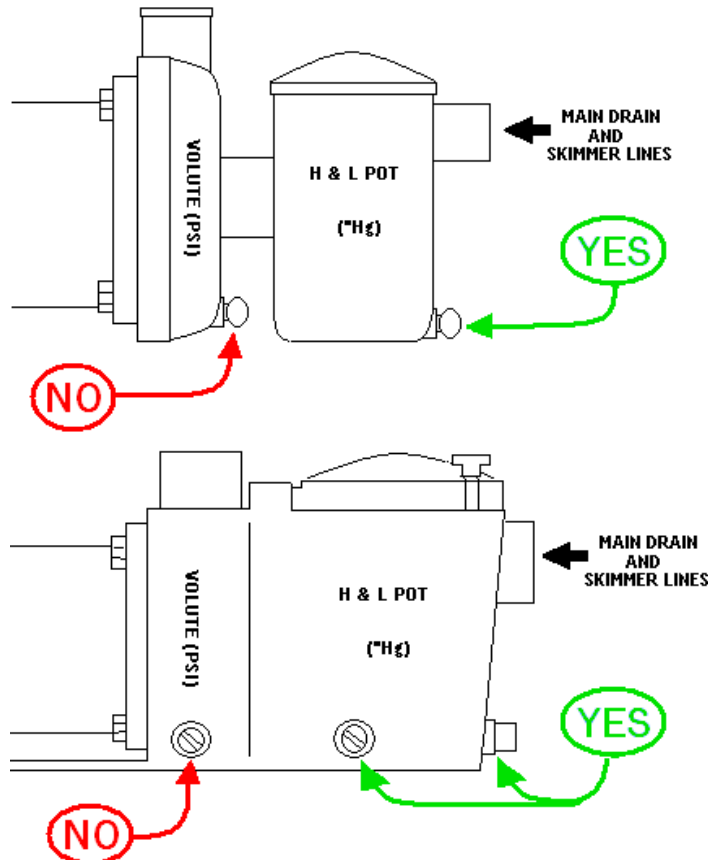
Pre-installation checklist

Start with a clean system – most especially if retro-fitting a pre-existing (old) filter system!!

- 1- Clean the Filter** - Backwash sand and D.E. filters, remove and clean cartridge filters. Sand or cartridges older than 5 years should be replaced. A dirty filter will result in lower than normal vacuum levels. Regardless of type, the filter should be performing at it's best when the SR500 is calibrated.
- 2- Empty all Baskets** - Any debris in the skimmer or hair/lint strainer baskets will result in higher than normal vacuum levels. All baskets should be cleaned prior to calibration of the SR500.
- 3- Pool/Spa should be full** - Water level should be at middle of skimmer mouths or higher. Check skimmer weirs for proper operation.
- 4- Check valve settings** - Valves should be set for normal operation of the mode being calibrated or nuisance tripping may result.
- 5- Vacuum check** - If in doubt of system integrity, install a vacuum gauge in the hair/lint strainer drain port to pre-check the system vacuum. The SR500/SR500PS will not allow operation over 20" Hg.
- 6- Repair Any Leaks in Circulation System Before Installation** - Leaks Will Cause the Formation of Air Bubbles That Disrupt the Normal Vacuum Levels.

Pre-installation checklist

3- Box location - The box must be hung within reach of the 8' vacuum hose provided with the installation kit. Cutting the hose shorter is permissible, do not lengthen the hose or use a longer hose without factory consultation. If necessary, mount the box on a small stand bolted to the floor or equipment pad adjacent to the pump.



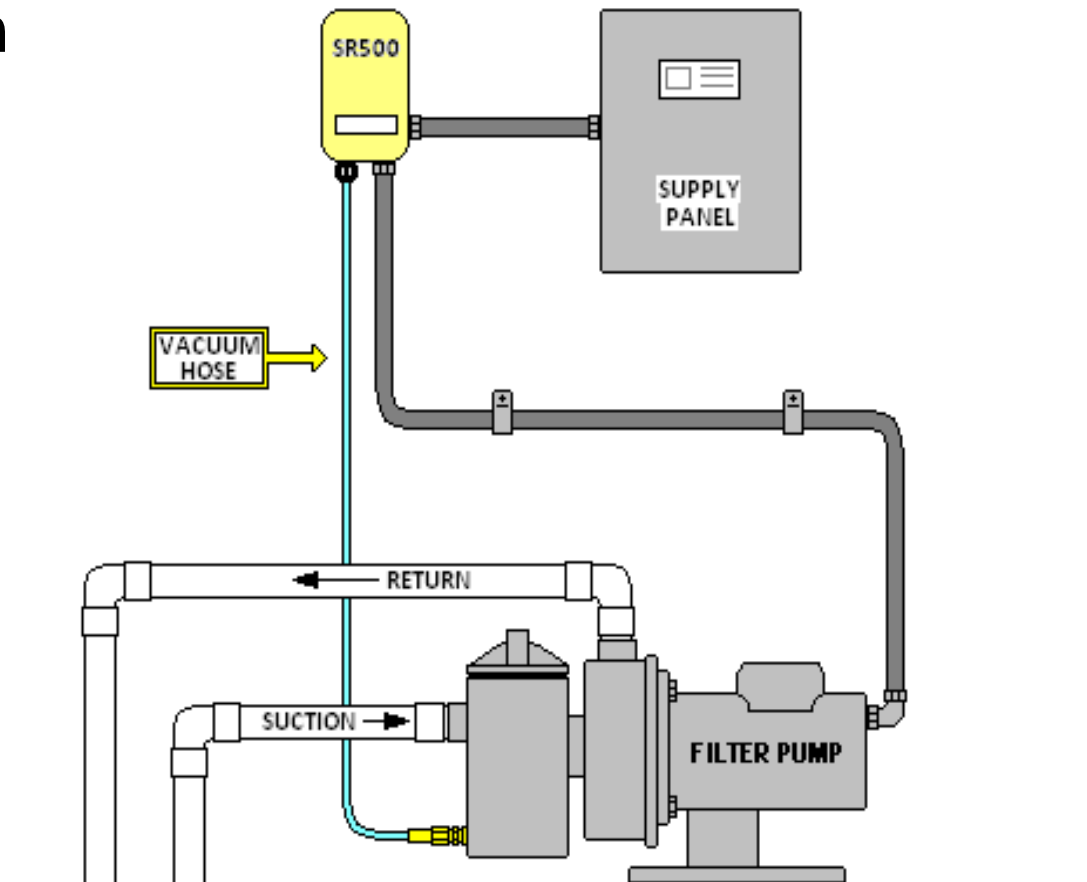
Hose Attachment-

Regardless of manufacturer or configuration, all pool pumps have common characteristics. It is the dividing point between the suction side (Hair and Lint strainer) and the return side (Impeller volute) of the filtration system. All pumps have 2 drain plugs, one for each side. To properly monitor the vacuum created by the pump, it is imperative that the hose be mounted in the suction side of the pump. As a general rule of thumb, the port for the suction side (Hair and Lint strainer) will be the one farthest from the motor.

WHEN THE HOSE IS ATTACHED TO THE PUMP VOLUTE (PRESSURE SIDE OF PUMP) THE SR500 WILL READ ROUGHLY THE SAME PRESSURE AS YOUR FILTER TANK GAUGE. UNLESS YOUR SYSTEM IS SUBSTANTIALLY BELOW THE DECK OF THE POOL, YOU SHOULD SEE VACUUM ("Hg) WHILE THE PUMP IS RUNNING

Stingl SR500 Installation

- Installation Diagram



Pre-installation checklist

Electrical requirements

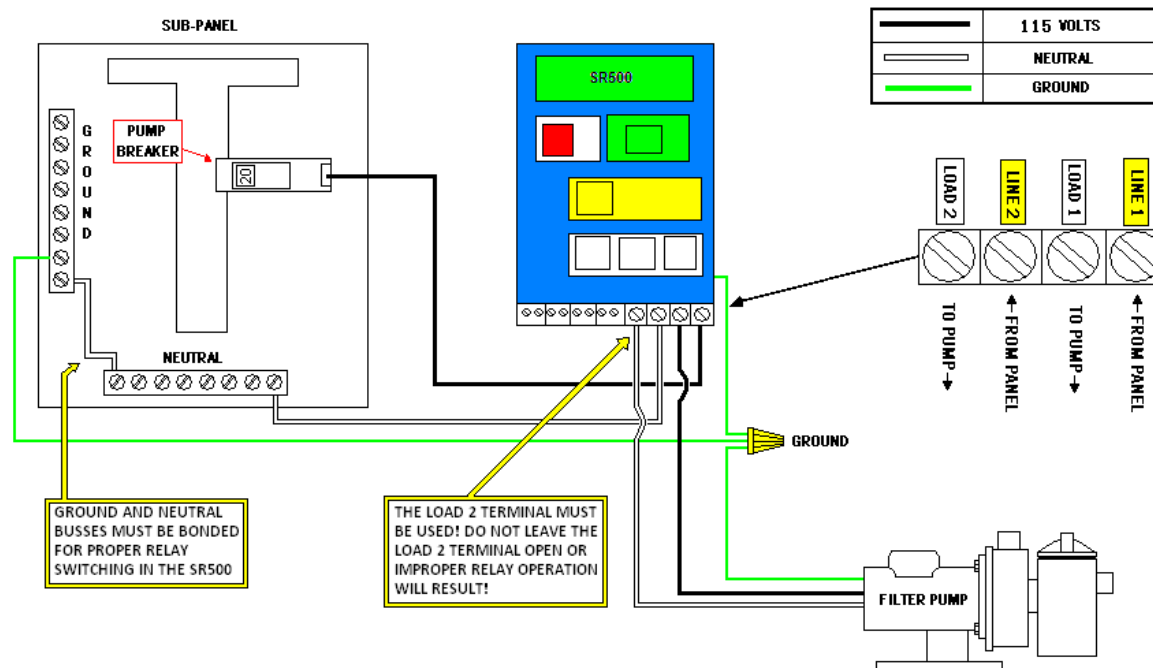
1- Supply voltage - The SR500/SR500PS will operate on 115 or 230 volts AC. Verify your pump or control circuit supply voltage and set the voltage selector switch on the right side of the SR500/SR500PS accordingly.

Failure to properly set the voltage selection is not covered under warranty!*

2- Pump Hp and circuit type - Is your pump larger than 3Hp/20 amps, or a 3-phase pump? These pumps require electrical wiring specific to their type, and will require the addition of a contactor if there is not one existing.

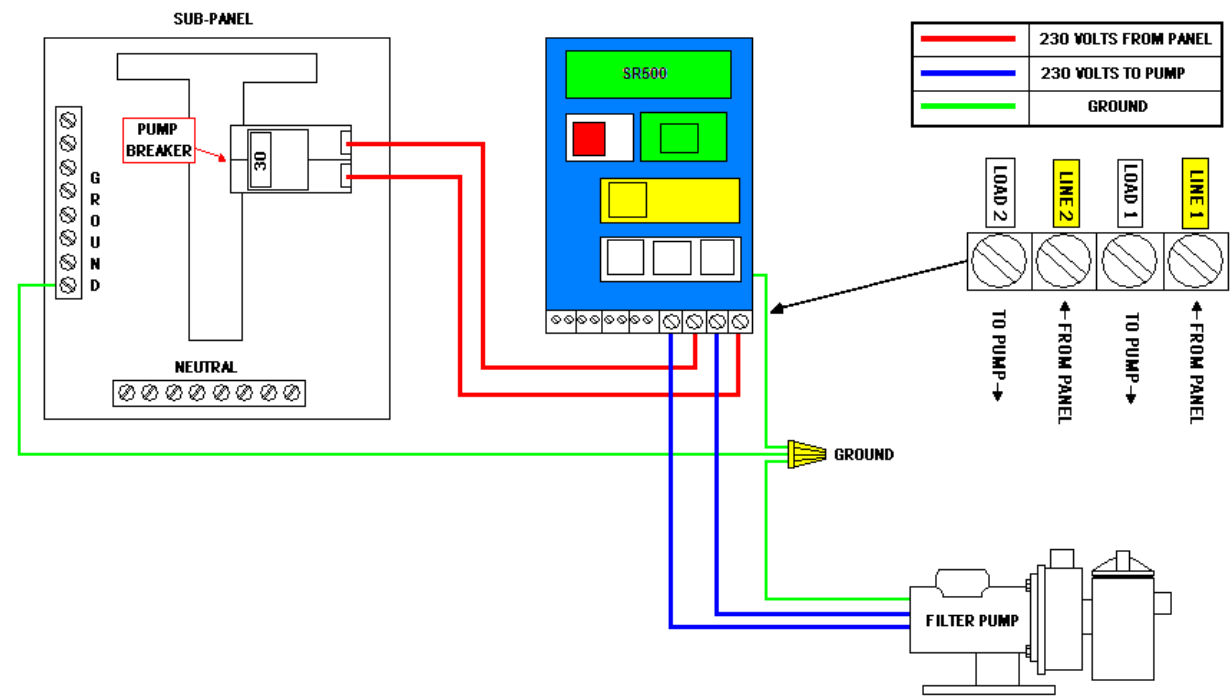
Basic electrical connections

115 volt single phase pumps- The SR500/SR500PS is wired the same as a basic time clock – 2 lines in for supply voltage, 2 loads out for pump power. However, there are strict guidelines for the neutral circuit that must be followed to insure proper operation of the relay switching/checking sequence built into the SR500/SR500PS firmware.



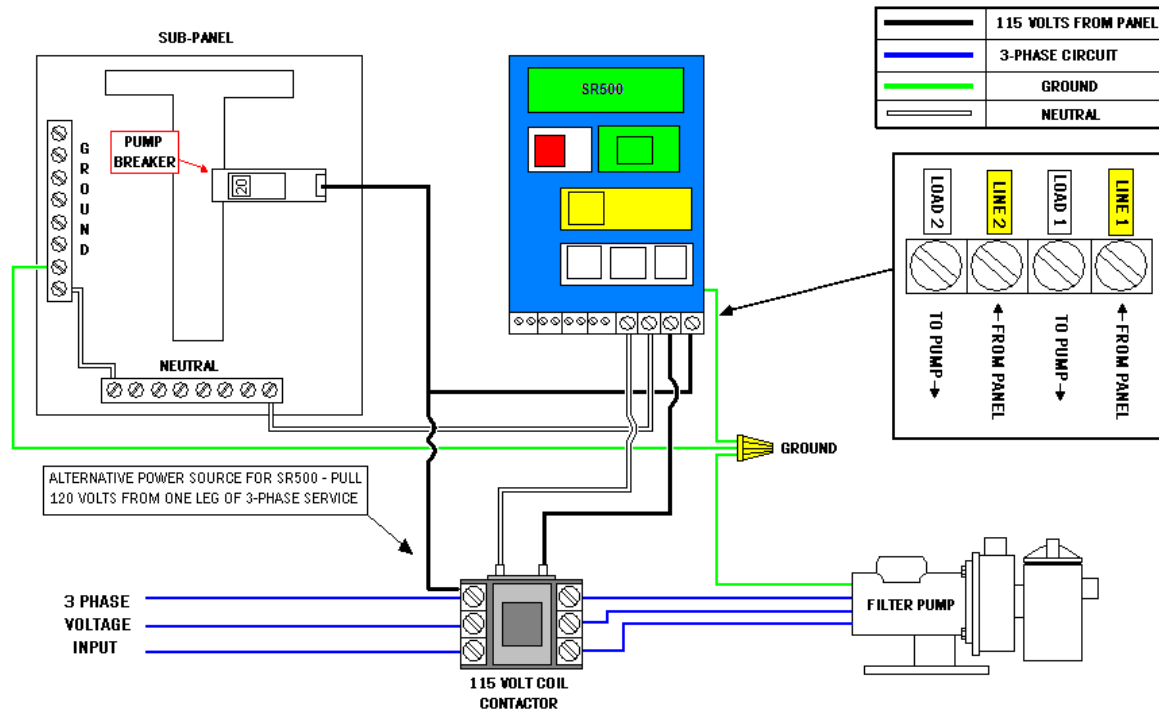
Basic electrical connections

230 volt single phase pumps- The SR500/SR500PS is wired the same as a basic time clock – 2 lines in for supply voltage, 2 loads out for pump power. Double-check that the voltage selector switch is set for 230.



Basic electrical connections

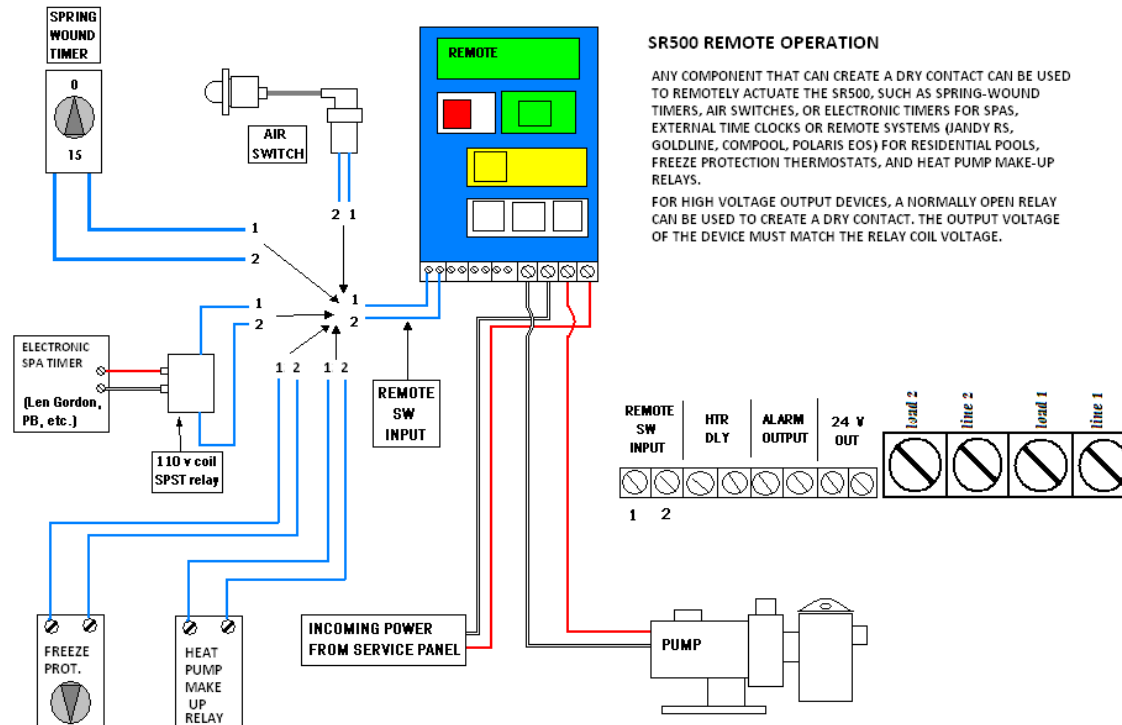
Pumps over 3Hp/20 amps, or ANY 3-phase pump- these applications produce amperage levels outside of the abilities of the SR500/SR500PS. In these cases you must use a contactor to carry the pump load, and use the SR500/SR500PS to supply the control voltage to the contactor. For 115 volt control circuits the same neutral guidelines apply



BASIC WIRING FOR TIMED OR CONTINUOUS DUTY FILTRATION/FEATURE PUMP OVER 3 HORSEPOWER/20 AMPS

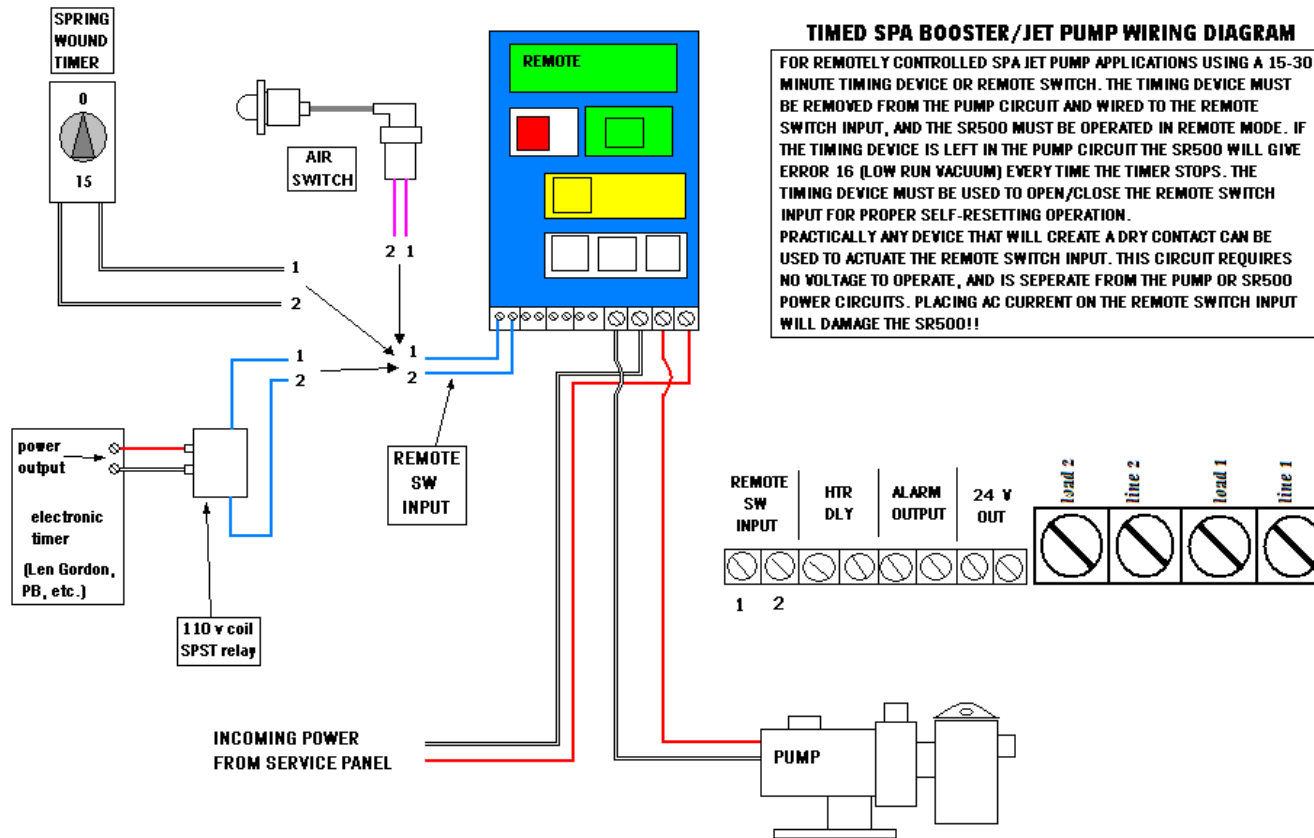
Advanced electrical connections

Remotely actuated pumps – Any device that remotely controls a pump protected by an SR500/SR500PS must be re-wired to the Remote SW input on the low voltage terminal strip. This includes devices as simple as spring-wound timers to advanced as remote automation panels for residential pools. Any device that can create a dry contact can be used to remotely actuate the SR500/SR500PS. High voltage devices can use their output to close a relay that acts as the dry contact.



Advanced electrical connections

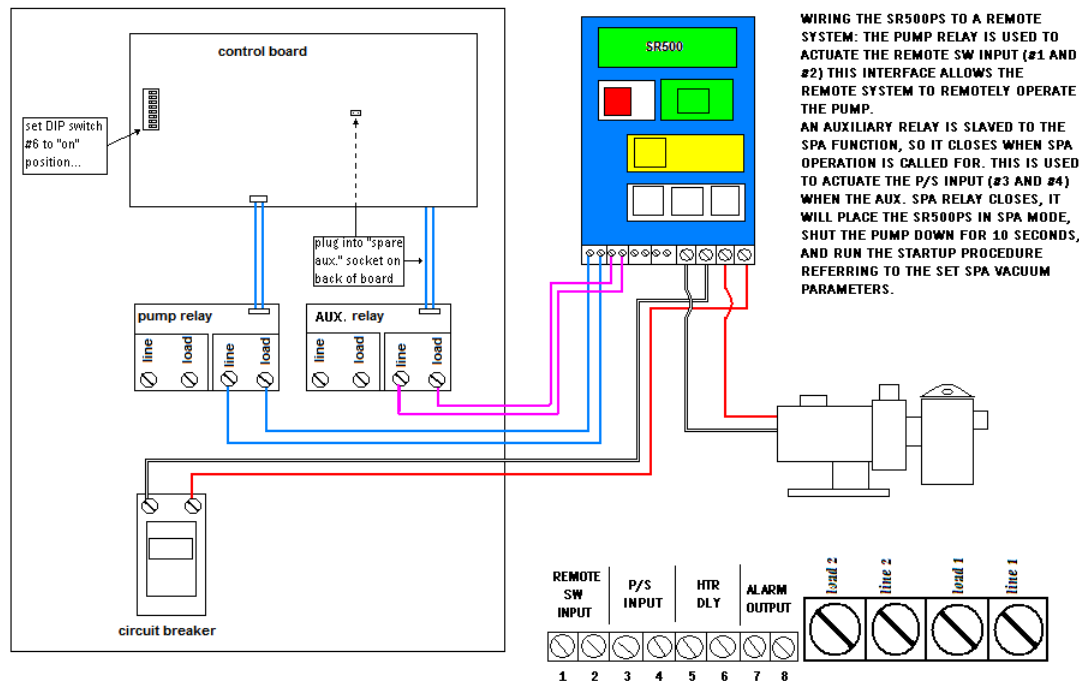
Spa jet/booster pumps – The timer device **MUST** be removed from it's existing location in the pump circuit, and the circuit made complete. Otherwise every time the timer shuts off the pump the SR500/SR500PS will assume the pump lost prime and sound a low vacuum alarm. The timer device must be used to close the Remote SW Input dry contact.



Advanced electrical connections

Remote automation systems – Jandy RS

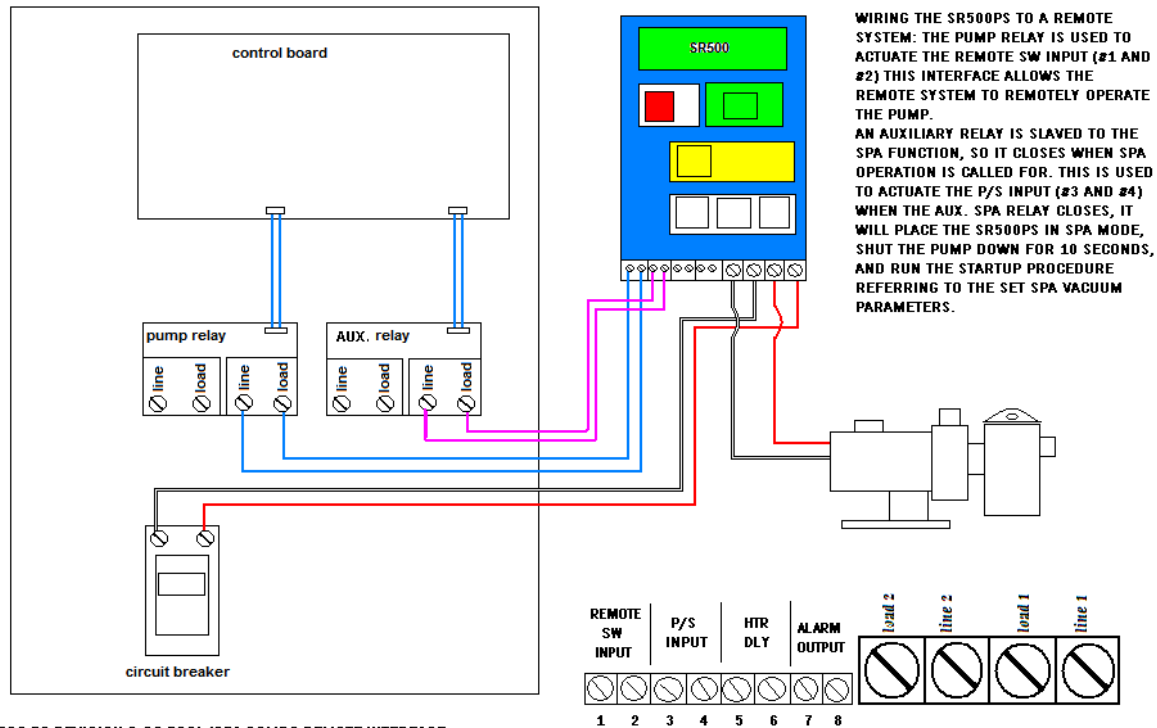
When working in conjunction with a remote automation system, the SR500/SR500PS will be directly responsible for powering the pump, therefore it must BECOME the pump relay in the circuit. Incoming power should come directly from the pump breaker, and output of the SR500/SR500PS should wire directly to the pump. The pump relay in the Jandy RS will serve as the dry contact for the Remote SW Input when wired as shown below. The SR500/SR500PS must operate in Remote mode.



Advanced electrical connections

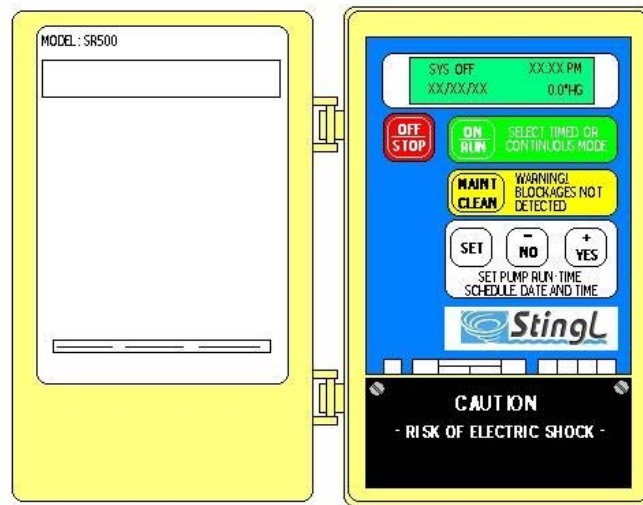
Remote automation systems – all other manufacturers

When working in conjunction with a remote automation system, the SR500/SR500PS will be directly responsible for turning the pump on and off, therefore it must BECOME the pump relay in the circuit. Incoming power should come directly from the pump breaker, and output of the SR500/SR500PS should wire directly to the pump. The relays in the remote system will serve as dry contacts for the Remote SW Input and P/S SW Input on the SR500/SR500PS.



Calibrating the SR-500

- Front Panel
- Set – Button, Used to Initiate Set-up Modes for Time, Date and Pump Operation Schedule. +/Yes and -/No Used to Answer Yes / No Questions (i.e. Date and Time)



Calibrating the SR500

- 1) Screen says "Set Up Required" or "Sys Off" - Hold the SET button until the screen reads "service mode - technician only" and release the button.
- 2) Screen says "firmware version" press SET
- 3) Screen says "initialize unit".
 - a) If this is a first time calibration press YES, screen will then say "Init successful set to continue" press SET.
 - b) If this is a re-calibration press NO.
- 4) Screen says "set sensor to zero".
 - a) If this is a first time calibration remove hose from sensor and press YES, screen will say "Zero successful set to continue. Press SET and reconnect hose.
 - b) If this is a re-calibration press NO.
- 5) Screen says "prime pump Y/N" press YES. Pump will come on. Pump needs to achieve full prime. If it does not occur in 60 seconds repeat step 5.
- 6) Screen says "full prime Y/N, running X.Xhg". When the pump is fully primed and filter pressure and flow rate are normal press YES before the pump stops.
- 7) Screen says "please wait - wait until screen changes to "reference vacuum".
- 8) Press SET 5 times to reach "default running mode" Press Yes button to change screen to the proper running mode and then press SET. Screen will say "firmware version", press OFF to exit service mode.
- 9) Press ON once for timed operation, press ON twice for continuous operation or press ON three times for remote operation.
- When "PUMP ON" appears on the bottom line of the screen, the unit is armed and protecting the pool.

Calibrating the SR500PS

- 1) Screen says "Set Up required" or "Sys Off" - Hold the SET button until the screen reads "service mode - technician only" and release the button.
- 2) Screen says "firmware version" press SET
- 3) Screen says "initialize unit".
 - a) If this is a first time calibration press YES, screen will then say "Init successful set to continue" press SET.
 - b) If this is a re-calibration press NO.
- 4) Screen says "set sensor to zero".
 - a) If this is a first time calibration remove hose from sensor and press YES, screen will say "Zero successful set to continue. Press SET and reconnect hose.
 - b) If this is a re-calibration press NO.
- 5) Screen says "System Config: Pool Only"
 - a) if pool only press SET
 - b) if pool/spa combination press NO and screen will change to "system config pool/spa combo" press SET.
- 6) Screen says "prime pool Y/N" press YES. Screen will change to "valves set to pool? Y/N" verify valves are set to pool operation and press YES. Pump will come on. Pump needs to achieve full prime. If it does not occur in 60 seconds repeat step 6.
- 7) Screen says "pool primed? Y/N, running X.Xhg". When the pump is fully primed and filter pressure and flow rate are normal press YES before the pump stops.
- 8) Screen says "please wait" - wait until screen changes to "reference vacuum".
- 9) Press SET three times until you the screen says "Prime Spa? Y/N" and press YES. Screen will read "Valves Set for Spa? Y/N". Verify the valves are set to spa and press the YES button
- Pump will come on. Pump need to achieve full prime. If it does not occur in 60 seconds hit YES again to turn pump back on.
- 10) Screen says "spa primed Y/N" press YES when pump is fully primed.
- 11) Screen says "please wait" - wait until screen changes to "reference vacuum".
- 12) Press set until you see "Default Run Mode:" Press Yes button to change screen to the proper running mode and then press SET. Screen will say "firmware version", press OFF to exit service mode.
- 13) Press ON once for timed operation, press ON twice for continuous operation or press ON three times for remote operation.
- When "PUMP ON" appears on the bottom line of the screen, the unit is armed and protecting the pool.

Post-installation checklist

- 1- Test the SR500/SR500PS after calibration** – Test the SR500/SR500PS by quickly closing the main drain valve AFTER the SR500 arms itself and is running in it's safe state (screen will read "pump on") Testing the SR500 while in startup mode (screen will read "startup") will result in a system starting error, and the pump will attempt to start 3 times. The screen must read "pump on" before the main drain valve can be closed for testing.
- 2- Test the SR500/SR500PS after calibration** – Second way of testing the SR500/SR500PS is Mat Testing. Because of the newly designed ASME/ANSI A112.19.8 2007 Anti-Entrapment covers, mat testing might be difficult. Please make sure to use a flexible enough mat to develop a complete blockage of your drain cover(s) for proper testing results.

Post-installation checklist

- 3- Educate the end user** – Whether they are a lifeguard, a maintenance engineer, or a homeowner, the SR500/SR500PS can be confusing to someone unfamiliar with it. If possible, please take a few minutes to familiarize them with the basic operational procedures and what to expect of the unit as it monitors the pump vacuum. A little time spent at the end of the installation will go a long way toward preventing those phone calls that always seem to come at the wrong time. If there is no manual available to leave on-site, the end user can obtain a PDF file of the manual on the technical info page on our website; www.stinglproducts.com



Contact Information

Stingl Products LLC

Mailing address:

PMB #325

21010 Southbank Street

Sterling, VA 20165

Phone (888) 749-5433

Fax (571) 434-6013

Email: info@stinglproducts.com

Website: www.stinglproducts.com